

Placenta Accreta __ Still a Dilemma

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Abstract

Objectives: To determine the etiological risk factors and outcomes of placenta accreta.

Study Design: Descriptive study.

Setting: Gynae Unit III Jinnah Hospital, Lahore.

Duration of Study: Two years from 1st Sept 2009 to 31st Aug 2011.

Materials and Methods: All the patients who presented with suspected placenta previa, previous cesarean section or myomectomy scar and previous D&C in OPD and emergency department were included in the study. Trans-abdominal ultrasound was carried out in all the patients when diagnosed or had suspicion of placenta accrete it was confirmed by color Doppler.

MRI was carried out in those patients who had anterior placenta previa along with placenta accreta. Data regarding age, parity, booking status and previous obstetric history were recorded and analyzed.

Results: During the study period there were 9046 deliveries and 13 patients presented with placenta accreta giving the incidence of 1 in 695 deliveries. Majority of all patients (84.61%) with placenta accreta were

between 31 – 35 years of age. Seventy seven percent were multi gravidae and 23% were grand multi gravidae. More than 2/3rd of the patients were booked. Forty six percent of the patients had previous 2 C/S, 38.5% had previous 3 C/S and 15.5% had H/O D&C. In 77% placenta previa was present along with placenta accreta. All the patients with placenta accreta were operated under General anaesthesia and had hysterectomy. There was no maternal deaths.

Conclusion: Placenta accreta is an obstetric catastrophe associated with high maternal and perinatal morbidity and mortality in developing countries. Antenatal care should be improved and all patients with previous C/S should have USG to diagnose placenta previa and accreta. This study showed a strong association of placenta accrete with previous C/S, placenta previa and previous D&C.

Introduction

Placenta accrete (PA) is a life threatening obstetric condition that occurs when a defect of the decidua basalis enables the direct apposition of chorionic villi to myometrium. As a result at least part of the placenta cannot separate after delivery and this may lead to severe obstetric haemorrhage.¹⁻⁴ It has become the principal indication for post partum hysterectomy as well as for related surgical injuries.⁵⁻⁷ Three grades are defined according to the depth of myometrial invasion.

- Accreta __ chorionic villi are in contact with the myometrium, rather than being contained within the deciduas (80% of the cases).
- Increta __ extensive villous invasion into the

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myometrium (15% of the cases).

- Percreta __ villous invasion extends to the serosal covering of the uterus (5% of the cases).

PA was previously thought to be very rare but the incidence of all forms has increased ten folds over the past 50 years: reported rates today in developing countries range from as low as 1 per 2500 to as high as 1 per 530 deliveries.^{8,9} Rising Caesarean section rate, short term interval between C/S, increased maternal age and parity are the major contributing factors. Most PA present as placenta previa in the third trimester with an incidence of 9.3% in this group compared with 0.005% when all the placenta is normally inserted.¹⁰ It is important to diagnose PA prior to delivery, to allow for optional concerted management planning and prevention of severe maternal morbidity and mortality.¹¹⁻¹³ The diagnosis of PA by ultrasound, color flow Doppler and Magnetic Resonance Imaging (MRI) in the second and third trimester of pregnancy remains largely speculative even in high prevalence Cohorts,^{14,15} and most cases are diagnosed at the time of delivery in cases with antepartum and postpartum haemorrhage.^{16,17} Grey scale ultrasound has a sensitivity of 93% and specificity of 79% where as Color Doppler has sensitivity of 84% – 100% and specificity between 92% – 96.8%.^{18,19} MRI has been reported to have a sensitivity of over 90% and specificity of 99% for the diagnosis of PA. Diagnostic criteria include more than one of the following:

- Placental lacunae giving placenta a moth eaten appearance.
- Obliteration of clear space between uterus and placenta.
- Interruption of bladder border.
- Myometrium of less than 1 mm.²⁰

Signs of PA have been recognized as early as 1st trimester in several case reports.^{21,22} Successful management of PA includes early antenatal diagnosis and planned surgery in highly equipped centre with multi-disciplinary expertise. Traditional management has centered on hysterectomy. However there are many cases where nonsurgical conservative management has been used successfully to manage woman with placenta accrete.²³⁻²⁶

The conservative approach may also be safest in cases of placenta percreta in particular when the bladder is involved, for it may reduce severe maternal morbidity such as ureteral injury, cystotomy and urinary fistula in comparison with caesarean hysterectomy.^{27,28}

Materials and Methods

The study was conducted at Gynae Unit III, Jinnah hospital, Lahore which is a 1250 bedded tertiary care hospital attached with Allama Iqbal Medical College. It was a descriptive hospital based study of two years from 1st Sep 2009 to 31st Aug 2011. During this two year period 9046 labouring patients were entertained. The mode of admission was through emergency and outpatient department. All the patients who presented with suspected placenta previa, previous caesarean section or myomectomy scar and D&C were included in the study. Transabdominal ultrasound was carried out in all the patients. When diagnosed or had suspicion of placenta accreta, it was confirmed by color flow Doppler. MRI was carried out in those patients who had anterior placenta previa along with placenta accreta to confirm the extent of penetration of placenta to the myometrium and bladder.

A total of 13 patients with the diagnosis of placenta accreta were included. Data regarding age, parity, booking status, previous obstetric history, clinical presentation at the time of admission were recorded and analyzed. The patients and their family were counselled regarding the potential need of emergency hysterectomy and all of them signed on informed consent. All patients received blood transfusion and prophylactic antibiotic cover. All of them were operated under G/A.

Results

A total of 9046 deliveries took place during the study period. Thirteen patients presented with placenta accreta giving an incidence of 1 in 695 deliveries. Table 1 shows that majority of the patients (84.61%) presented between the age of 31 – 35 years. Increasing parity is a great contributory factor of placenta accreta. Table 2 shows that 77% of the patients were multi gravidae and 23% were grand multi gravidae. Seventy seven percent of the patients were booked at the time of admission and only 23% were un-booked. Previous uterine scar, number of uterine scars and previous H/O dilatation and curettage are said to be notorious risk factors of placenta accreta. Forty six percent of the patients had two C/S, 38.5% had 3 C/S and 15.5% had H/O dilatation and curettage. In 77% of the patients, Placenta previa along with placenta accreta was diagnosed. In 77% patients placenta accreta was diagnosed on ultrasound and it is further confirmed on color flow

Doppler. Those 46% of the patients who had anterior placenta previa along with placenta accreta, MRI was carried out to determine the extent of penetration into the myometrium or bladder.

Table 1: Placenta Accreta in Relation to Age (n = 13):

Age	No. of Patients	Percentage %
26 – 30 years	2	15.39
31 – 35 years	11	84.61

Table 2: Placenta Accreta in Relation to Parity (n = 13):

Parity	No. of Patients	Percentage %
Multi gravidae 2 – 5	10	77
Grand multigravidae > 5	3	23

Table 3: Risk Factors of Placenta Accreta:

Risk Factors	No. of patients	Percentage %
Previous 2 C/S	6	46.05
Previous 3 C/S	5	38.5
Previous D&C	2	15.5
Placenta Previa	10	77

In planned 77% of the patients abdomen was opened by previous scar, increased vascularity and thinning of the lower uterine segment appreciated, bladder was carefully dissected down, fetus was delivered through high transverse or midline classical incision on uterus. Placenta was not separated nor touched and hysterectomy was proceeded. In 23% of the patients bladder was damaged during dissection, two of them were un-booked and one patient was booked in which placenta percreta was diagnosed on MRI antenatally. Patient had massive hemorrhage during surgery, 4 – 5 units of fresh blood and 4 FFPs were transfused. During surgery bladder was repaired by urologist and total hysterectomy was done.

All cases of planned hysterectomy did not require more than 4 units of blood. Total hospital stay was 6-8 days. There were no secondary hemorrhage or maternal death in this study.

Discussion

Placenta accreta is a life threatening obstetrical emergency. Its incidence has risen in parallel with that of cesarean section and it will remain a major cause of maternal mortality and morbidity as the principle indication for postpartum hysterectomy with high blood loss.^{11,13,16}

The reported incidence of placenta accrete has increased from 1:2510 in the 1980s to 1:533 in 2002, to 1:210 in 2006 and this is most likely related to increasing cesarean section rates.^{9,12} In this study the incidence is 1 in 695 deliveries. Ayesha Arif²⁹ reported 1 in 131 deliveries. Factors associated with a higher incidence of placenta accreta include advanced maternal age, multiparity previous uterine surgery / cesarean sections, uterine curettage and placenta previa. Miller et al⁸ reported increasing maternal age increase placenta accreta. In this study 84.6% of the patients were between 31 – 35 years of age group. This is similar to the study conducted by Ayesha Arif²⁹ and Sadia Jalil.³⁰ Increasing parity is also responsible for increased placenta accrete, In this study 77% of patients were multi gravidae and 23% were grand multi gravidae which is similar to other studies.^{8,29-31} Several studies have found a direct relationship between the number of previous caesarian sections / uterine incisions and the subsequent occurrence of the placenta accreta^{8,9}. In this study previous two C/S were found in 46% of the patients, previous 3 C/S were found in 38.5% of the patients and H/O dilatation and curettage was present in 15.5% of the patients who presented with placenta accreta. This is similar to other studies.^{8,29,30} Placenta previa was present in 77% of the patients who presented with placenta accreta in the study. Oyelese Y²⁴ showed an almost linear increase in the incidence of placenta previa with repeat caesarean section and significantly increased the risk of morbid adherence of the placenta. Ayesha Arif²⁹ reported 75% and Sadia Jalil³⁰ reported 93% of placenta previa with placenta accrete in their studies. The risk of accreta in patients with placenta previa and a prior cesarean section increased from 3% with one C/S to 11%, 40% 61% and 67% with two, three four or more repeat C/Sections respectively.¹² There is a close correlation between dilatation and curettage and occurrence of placenta accreta. In this study 15.5% of the patients had H/O previous D&C which is similar to other studies conducted by Ayesha Arif²⁹ and Millen DA et al.⁸

Antenatal diagnosis is very important to deal this potentially catastrophic condition in order to reduce

the maternal morbidity and mortality. In this study 77% of the patients were diagnosed antenatally Ayesha Arif²⁹ reported 50% and Sadia Jalil³⁰ reported 82% in their studies. Ultrasound play an important role in diagnosing placenta accreta, sonographic features suggesting placenta accrete are placental lacunae which has the highest sensitivity of 93%.^{14,22,32} Color flow Doppler is the gold standard in diagnosing placenta accreta and Magnetic Resonance Imaging is important to differentiate placenta accreta, increta and percreta.^{18,19} In this study 77% of the patients were diagnosed prenatally on ultrasound and confirmed by color flow Doppler, 46% of the patient who had anterior placenta previa and previous C/S MRI were carried out to differentiate type of accreta. MRI has been reported to have a sensitivity of over 90% and specificity of 99% for the diagnosis of accrete.¹⁹ In 23% of the patients placenta accrete was diagnosed at the time of surgery which is similar to the other studies.^{29,30} Traditional management is cesarean hysterectomy and prompt undertaking has reduced the morbidity and mortality to less than 2%.³³ In this study we favor hysterectomy for placenta accrete and increta with delivery of fetus through high, transverse or classical midline incision avoiding incision of placenta, thereafter the placenta may left attached to uterus and removed as a part of hysterectomy. This method significantly decreases blood loss and morbidity and is also supported by many authors in the literature.^{33,34} A retrospective study by YAP et al³⁵ showed that placental removal before hysterectomy resulted in increased maternal morbidity. A recent review also advised against attempts at placental removal before hysterectomy.²⁸ Hysterectomy although life saving if timely attempted but the loss of fertility is devastating if patient is young.

Conclusion

Placenta accrete is an obstetric catastrophe associated with high maternal morbidity and mortality in developing countries. High index of suspicion, early antenatal diagnosis planned surgery at well equipped center will reduce the maternal and perinatal morbidity and mortality. The decision to perform hysterectomy or conservative management needs to be individualized. Good anticipation and timely decision is the key to success as placenta accrete like other obstetric emergencies is life threatening.

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